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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/807,180	03/24/2004	Katsuhiko Hashimoto	108391-00038	4177
4372 7590 11/01/2007 ARENT FOX LLP 1050 CONNECTICUT AVENUE, N.W. SUITE 400 WASHINGTON, DC 20036			EXAMINER TRAORE, FATOUMATA	
			ART UNIT 2136	PAPER NUMBER
			NOTIFICATION DATE 11/01/2007	DELIVERY MODE ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/807,180	HASHIMOTO ET AL.	
	Examiner	Art Unit	
	Fatoumata Traore	2136	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 September 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3 and 5-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 5-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>09/26/2007</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This is in response to the amendment filed on September 26th, 2007. Claims 1-3, 5-8, and 10-15 have been amended. Claims 4, 16-30 have been cancelled. Claims 1-3 and 5-15 are pending and have been considered below.

Claim Rejections - 35 USC § 102

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-3, 5-8, and 15 are rejected under 35 U.S.C. 102(b) as being anticipated by Imamura et al (US2002/0116551).

Claims 1, 15: Imamura et al discloses a data storage device and system and a control method comprising:

- i. A first data area that stores first data that are not encrypted (Fig. 2 Data area);
- ii. A second data area that stores second data that are not encrypted (Fig. 2 medium information management area);
- iii. A third data area that stores third data that is input from outside (the medium identifier recorded in the storage)(paragraphs [0083], [0084], [0121], [0135]);
- iv. A fourth data area that stores fourth data that are obtained by encrypting the second data (In the above described embodiments of the present invention, the security information (a device identifier, an address information, a password, etc.) to be recorded in the security area may be

encoded to enhance the secrecy) (paragraphs [0122], [0123], [0125], [0131], [0167], [0168]); and

v. A controller that allows reading or writing of the first data when the third data matches with the second key-data, wherein the third data is obtained by decrypting the fourth data (FIG. 27 is a flowchart for the medium loading process performed when the security information includes a password in FIG. 26. In FIG. 27, step S1910 is added to the flowchart in FIG. 26. Specifically, when the security information is decoded at step S1906, a password, which is input, is compared with a password included in the security information. When the two passwords do not match, the security is not released, and the reading and the writing of data to the medium are inhibited (step S1908). When the passwords match, the process advances to step S1907, whereat comparison of the medium identifiers is performed as described above) (paragraphs [0125], [0128],[0171]).

Claim 2: Imamura et al discloses a data storage device and a control method as in claim 1 above, and further comprises a comparing unit that compares the third data with the second key data, wherein the controller allows the reading or the writing of the first data based on the result of comparison performed by the comparing unit (a controller for comparing said first identifier with said second identifier and said first address information with said second address information, and controlling to access to said memory medium for data reading and/or writing

according to a relationship between said first identifier and said second identifier and a relationship between said first address information and said second address information)(paragraphs [0012], [0020]).

Claim 3: Imamura et al discloses a data storage device and a control method as in claim 2 above, and further discloses if the third data match the second key-data, the comparing unit authorizes the reading or the writing of the first data (when the first and the second identifiers match, the controller permits access to the memory medium for reading and writing of data) (paragraphs [0013], [0014], [0086]; Fig. 15 steps S907 and S909; Fig. 16 steps S907 and S909), and if the third data do not match the second key data, the comparing unit inhibits the reading and the writing of the first data(when first identifier recorded in the storage unit does not match the second identifier recorded on the memory medium, the controller inhibits access to the memory medium for reading and writing of data)(paragraphs [0013], [0014], [0086]; Fig. 15 steps S907 and S908; Fig. 16 step S907 and S909).

Claim 5: Imamura et al discloses a data storage device and a control method as in claim 2 above, and further discloses that the controller allows the reading or the writing of the fourth data based on the result of comparison performed by the comparing unit data (when the first and the second identifiers match, the controller permits access to the memory medium for reading and writing of data) (paragraphs [0013], [0014]; Fig. 15 steps S907 and S909; Fig. 16 steps S907 and S909).

Claim 6: Imamura et al discloses a data storage device and a control method as in claim 5 above and further discloses if the third data match the second key data, the comparing unit authorizes the reading or the writing of the fourth data (paragraphs [0013], [0014]; Fig. 15 steps S907 and S909; Fig. 16 steps S907 and S909), and if the third data do not match the second key data (Fig.22 step S1506), the comparing unit authorizes only the reading but inhibits the writing of the fourth data (Fig. 22 step S1511).

Claim 7: Imamura et al discloses a data storage device and control method as in claim 1 above and further comprising a fifth data area that stores fifth data that indicate whether the second data is stored in the second data area (At step S105, a check is performed to determine whether the security area is in the initial state. When the security area is in the initial state, i.e., when no device identifier has been recorded in the security area, the process then advances to step S108, whereat the reading of data) (paragraph [0074] Fig. 5 Step S105).

Claim 8: Imamura et al discloses a data storage device and control method as in claim 1 above and further comprising a communication unit that receives the first data, the second data, and the third data from the outside, and output the first data and the fourth data to the outside (paragraphs [0063], [0066], [0083], Fig. 27 step S1909).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

a. A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Imamura et al (US 2002/0116551) in view of Matsuo et al (US 5974513).

Claim 9: Imamura et al discloses a data storage device and control method as in claim 1 above, but does not explicitly disclose that the memory device is driven by an external electric power supply. However, Matsuo et al discloses an IC memory card having read/write inhibit capabilities, which further discloses that the memory device is driven by an external electric power supply (the memory control portion is always in the inhibit mode when electric power is supplied from outside) (column 2, lines 1-3). Therefore, it would have been obvious for one having ordinary skill in the art at the time the invention was made to include a step of driving the memory device by an external electric power supply to Imamura et al's disclosure. One would have been motivated to do so in order to reduce the power consumption.

5. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Imamura et al (US 2002/0116551) in view of Chiba et al (US 4589064).

Claim 10: Imamura et al discloses a data storage device and control method as in claim 1 above, but does not explicitly disclose that the first data area, the second data area, the third data area, and the fourth data area are divided into a plurality of sub data areas, respectively. However, Chiba et al discloses a

system for controlling key storage unit which controls access to main storage, which further discloses that the first data area is divided into a plurality of sub data areas each containing the first data, the first key data area is divided into a plurality of sub key data areas each containing the first key data, the second key data area is divided into a plurality of sub key registers each containing the second key data (the data processing apparatus includes a main storage unit and a key storage unit for storing a main storage protection key, a reference bit, and a change bit corresponding to each block of the main storage unit.) (Column 2, lines 6-10). Therefore, it would have been obvious for one having ordinary skill in the art at the time the invention was made to divide store are in a plurality of sub data area. One would have been motivated to do so in order to prevent an unauthorized person to access the content of the device.

6. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Imamura et al (US 2002/0116551) in view of Chiba et al (US 4589064) as applied to claim 10 above, and in further view of Yoshimaru (US 4641294).

Claim 11: Imamura et al and Chiba et al disclose a data storage device and control method as in claim 10 above, while neither of them explicitly discloses that all the sub-data areas of the first data area have a same memory capacity. However, Yoshimaru discloses a device for performing a memory operation on a fixed length block of data on a memory disk, which further discloses that all the sub data areas of the first data area have a same memory capacity (there is

provided a memory disk apparatus wherein a plurality of track block having the same track length is assigned to disk track) (column 1, lines 50-63). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combined device of Imamura et al and Chiba et al such that the device have a fixed memory capacity. The motivation of doing so would have been to improve the recording density of data on the memory disk.

7. Claims 12 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Imamura et al (US 2002/0116551) in view of Chiba et al (US 4589064) as applied to claim 10 above, and in further view of Schwartz et al (US 4654781).

Claim 12: Imamura et al and Chiba et al disclose a data storage device and control method as in claim 10 above, while neither of them explicitly discloses that each of the sub data areas of the first data area has a different memory capacity. However, Schwartz et al discloses a byte addressable memory for variable length instruction and data, which further discloses that each of the sub data areas of the first data area has a different memory capacity (twelve bytes of digital information are listed illustrating a typical mixture of variable length instructions with variable numbers of operand specifiers and variable size data types which may be 8, 16, 32 or 64 bits long that may be stored in a memory array) (column 4, lines 25-30). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the

combined device of Imamura et al and Chiba et al such that the device have a variable memory capacity. The motivation of doing so would have been to achieve maximum utilization of the memory storage space available.

Claim 13: Imamura et al and Chiba et al disclose a data storage device and control method as in claim 10 above, while neither of them explicitly discloses that the memory capacity of each of the sub data areas of the first data area is set based on a length of data to be stored therein. However, Schwartz et al discloses a byte addressable memory for variable length instruction and data, which further discloses that the memory capacity of each of the sub data areas of the first data area is set based on a length of data to be stored therein (twelve bytes of digital information are listed illustrating a typical mixture of variable length instructions with variable numbers of operand specifiers and variable size data types which may be 8, 16, 32 or 64 bits long that may be stored in a memory array) (column 4, lines 25-30). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combined device of Imamura et al and Chiba et al such that the device have a variable memory capacity. The motivation of doing so would have been to achieve maximum utilization of the memory storage space available.

8. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Imamura et al (US 2002/0116551) in view of Yasu et al (US 5912849).

Claim 14: Imamura et al discloses a data storage device and control method as in claim 1 above, but does not explicitly disclose that the first data area and the second data area are composed of a ferroelectric memory that holds the data by means of remnant polarization. However, Yasu et al discloses a write protection device for a non-volatile memory, which further discloses that the data storage area is composed of a ferroelectric memory (the ferroelectric memory is usable as a RAM even though it is a non-volatile memory) (column 2, lines 53-55).

Therefore, it would have been obvious for one having ordinary skill in the art at the time the invention was made to store the data in a ferroelectric memory in Imamura et al's disclosure. One would have been motivated to do so in order to get at least one of the many advantages of the ferroelectric memory such as: lower power usage, faster write speed and a much greater maximum number (exceeding 10¹⁶ for 3.3 V devices), of write-erase cycles.

Response to Arguments

9. Applicant's arguments filed September 13th, 2007 have been fully considered but they are not persuasive.

Regarding Claims 1 and 15: The claims were rejected over Chiba in view of Imamura et al. On pages 8 and 9 of the reply, applicant argued that "Chiba fails to disclose or suggest that the encrypted data is also stored. Thus, Chiba fails to teach both the unencrypted password and the encrypted password that are sent to the recipient are stored in the memory device..... However, Imamura fails to cure deficiencies in

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Chiba in disclosing or rendering obvious this feature because Imamura does not teach a third data area that stores third data, a fourth data area that stores fourth data that are obtained by encrypting the second data, wherein the third data is obtained by decrypting the fourth data, as recited in the independent claims". However, upon closer review of the references, it is submitted that the prior art of record discloses such feature.

First, Applicant is respectfully reminded that during patent examination, the pending claims must be "given their broadest reasonable interpretation consistent with the specification." (Phillips v. AWH Corp., 415 F.3d 1303, 75 USPQ2d 1321 (Fed. Cir. 2005)). See MPEP 2111

Imamura et al discloses a third data area that stores third data (the medium identifier recorded in the storage)(See paragraphs [0083], [0084], [0121], [0135]), a fourth data area that stores fourth data that are obtained by encrypting the second data, wherein the third data is obtained by decrypting the fourth data (a device identifier, an address information, a password, etc.) to be recorded in the security area may be encoded to enhance the secrecy) (See paragraphs [0122], [0123], [0125], [0131], [0167], [0168])), as recited in the independent claims.

There is no new ground of rejection when the basic thrust of the rejection remains the same. See *In re Kronig*, 539 F.2d 1300, 1302-03, 190 USPQ 425, 426-27 (CCPA 1976).

To the extent that the response to the applicant's arguments may have mentioned new portions of the prior art references, which were not used in the prior office action, this does not constitute new a new ground of rejection. It is clear that the prior art reference is of record and has been considered entirely by applicant. See *In re Boyer*, 363 F.2d

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455,458 n.2, 150 USPQ 441,444, n.2 (CCPA 1966) and In re Bush, 296 F.2d 491,496, 131 USPQ 263,267 (CCPA 1961).

The mere fact that additional portions of the same reference may have been mentioned or relied upon does not constitute new ground of rejection. In re Meinhardt, 392, F.2d 273,280, 157 USPQ 270, 275 (CCPA 1968). Accordingly, this office action is being made final.

Therefore, the examiner submits that Imamura et al discloses each and every feature of claims 1 and 15 and respectfully maintains the rejection.

Regarding 2, 3 and 5-14: The examiner still maintains the rejection using the same rational as applied to claims 1 and 15 above.

Conclusion

10. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

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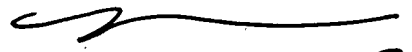
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Fatoumata Traore whose telephone number is (571) 270-1685. The examiner can normally be reached Monday through Thursday from 7:00 a.m. to 4:00 p.m. and every other Friday from 7:30 a.m. to 3:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nassar G. Moazzami, can be reached on (571) 272 4195. The fax phone number for Formal or Official faxes to Technology Center 2100 is (571) 273-8300. Draft or Informal faxes, which will not be entered in the application, may be submitted directly to the examiner at (571) 270-2685.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group Receptionist whose telephone number is (571) 272-2100.

FT
Thursday October 25th, 2007

Nassar G. Moazzami
Supervisory Patent Examiner


16,26,07